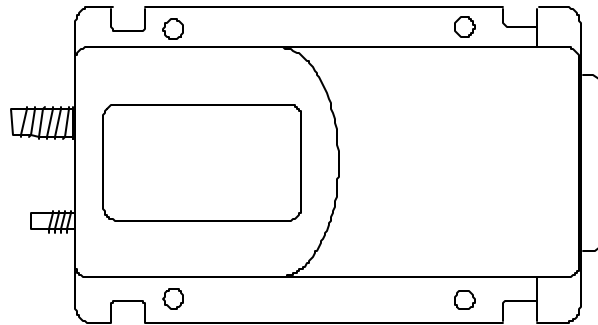


# CRIMESTOPPER



## Installation Instructions TRACKNET™ TN-4003/4004



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## INSTALLATION CAUTIONS & WARNINGS

**BEFORE BEGINNING**, check all vehicle manufacturer cautions and warnings regarding electrical service (AIR BAGS, ABS BRAKES, ENGINE COMPUTERS, and BATTERY etc.).

**WE RECOMMEND** the use of a VOLT/OHM METER to test and verify wiring circuits. Test lights or illuminated probes can cause damage to on-board computer or engine management systems.

**DO NOT exceed maximum output ratings** or damage may occur. Electrical current limits for the TrakNet are listed where applicable on the system diagram. If you are unsure about the current load, of a specific circuit on your vehicle, measure the load first with an amp-meter before connecting.

**WE RECOMMEND** that the **MAIN SYSTEM FUSE** be **REMOVED** before jump starting, using a battery charger, or changing the battery. A voltage surge or high boost condition could damage alarm circuits.

**DO NOT ROUTE ANY WIRING THAT MAY BECOME ENTANGLED** with brake, and gas pedals, steering column, or any other moving parts in the vehicle.

## CONTROL MODULE & COMPONENT MOUNTING

***DO NOT Mount the control unit in the engine compartment or where the control unit or wiring harness where they can become entangled with moving parts such as brake/gas/clutch pedals, or the steering column!*** The TrakNet control module and back up battery should be mounted in a concealed location. The antenna wire should be routed away from any metal if possible. Do not alter the length of the antenna wire or route it with other wires. Do not ground the antenna wire. Fasten the module to a bracket or wire harness using the cable ties. Under dash Mounting: If you are locating the control unit under dash, mount it as high as possible, not easily located.

**Antenna:** The antenna location must be selected carefully so that the antenna can receive the satellite signals. The antenna is designed to be mounted inside the vehicle. The ideal location is in a place that allows line of sight reception from the GPS satellites. The antenna must be mounted flat with the GPS receiver facing up. The ideal location is under the dashboard. It can be placed under the dash pad as long as the covering is not metallic. The antenna works best if it has a clear view of the sky. **Do not mount antenna under a window that has metallic tint on it. This will affect the reception of the unit.**

## CONTROL MODULE & COMPONENT MOUNTING

**Main Unit:** The TrakNet unit has an internal power management program that monitors the vehicle power at all times. The internal power management program is continuously looking at the condition of the battery in order to detect the state of the vehicle operation. The Traknet unit determines the state of the vehicle power by detecting changes in the battery voltage over time. It is critical that the vehicle power be taken from a source as close to the battery as possible. Possible sources besides a direct connection to the battery is the main fuse block.

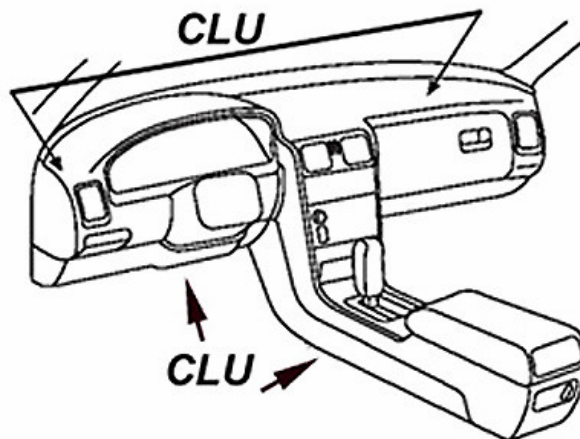
**Back Up Battery:** Securely mount the battery so it wont move around. It can be mounted in various positions because the battery is sealed and should not leak.

## MOUNTING LOCATION

### Module Mounting Location

The Traknet Unit is supplied with a 6 ft. power cable. The unit should be mounted so it will not be exposed to damage from people or objects. The cables that connect to the unit should also be routed to protect them from possible damage. The module has a mounting base or flange with four mounting holes. Normal installation is with these four holes and #6 or #8 sheet metal screws. The unit must be mounted where it will not be exposed to direct sunlight or excessive heat generated by the vehicle operation. Some examples of mounting locations include under the dash above the knee bolster, under center console, behind glove compartment, and in the trunk. If the optional battery is to be installed there should be room to mount the battery within 1 ft of the module.

The unit has a diagnostic wire and LED that will be used to verify operation by the installer. These items are normally not used by the owner.



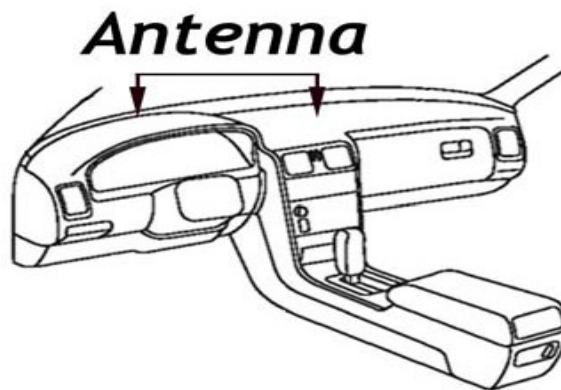
# MOUNTING LOCATION

## Selecting the Antenna Locations

The Module requires two antennas elements. One antenna is for receiving GPS signals from The Navistar GPS satellites. The second antenna is a radio transceiver antenna that communicates with the Cellular network. The antenna does not require a ground plane to function properly.

There are two antenna cables in addition to the main power harness that must be connected to the TRAKNET, so be sure there is room to access the connectors for installation and service. If an exterior installation location is required you will need to use the optional antennas designed for exposure to the outside elements. The GPS/RF Combo antenna must be mounted flat with the GPS Receiver faced up. The ideal location is under the dashboard. It can be placed under the dash pad as long as the pad or covering is not metallic or a barrier to the GPS satellite signals. If the vehicle window has a solid dark coating around the edge, do not place the GPS antenna behind the coating. The GPS signals will travel through the clear glass but will be reduced if the window has any metallic coating or tint applied.

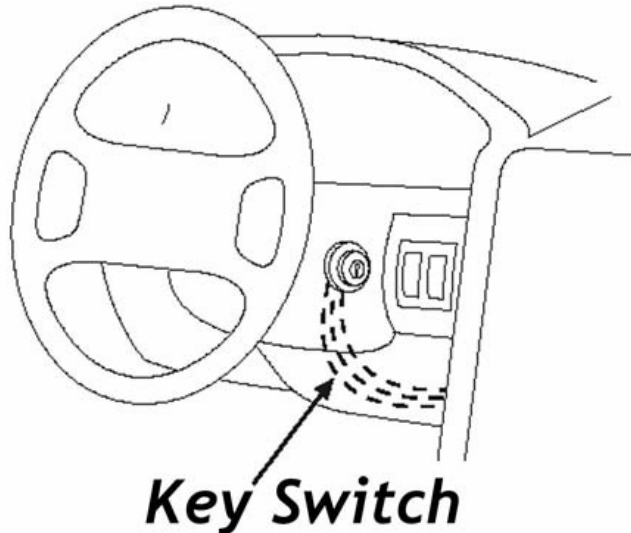
The GPS/RF Combo antenna will work best if it has a clear view to the sky and as much of the horizon as possible. Any metallic objects between the antenna and the satellites will degrade the signal and reduce



# INSTALLATION

## Locating Vehicle Power

The TRAKNET has an internal power management program that monitors the vehicle power at all times. The internal power management program is continuously looking at the condition of the vehicle battery in order to detect the state of the vehicle operation. The TRAKNET determines the state of the vehicle power by detecting changes in the battery voltage over time. It is critical in this installation that the vehicle power be taken from a source as close to the battery as possible.



Possible sources besides the direct connection to the battery are the main fuse block panel or the point where the vehicle charging circuits are connected to the 12-volt system. Connect the red lead or fuse end of the power cable to the +12 volt vehicle power. The power cable can be shortened if needed but be sure to also install the in line fuse. Connect the black lead to the vehicle chassis (ground). If you need to shorten the power cable or reconnect the in-line fuse, the wires can be removed and reattached by unscrewing the ends of the fuse holder and inserting the new wire. The holder accepts a 1/4-inch striped stranded wire. Tighten the fuse holder ends by securely tightening by hand.

***\*Improper connection could result in numerous "Start up test" notifications, and increased usage on monthly billing.***

## Powering the Unit for the First Time

\*Disconnect the backup battery if it is installed. Connect the two coax cables from the combo antenna (securely) and connect the vehicle's 12-volt power and observe the LED on the Module. During the initial 15 minutes after +12 volts is connected to the Module, the LED should flash green at the rate of 1 second "on", 5 seconds "off", this feature is designed for installation test purposes (15 minute Start-Up).

# INSTALLATION

Within five minutes the flash rate will change to approximately one second on and one second off to indicate that the GPS Receiver has established a location “lock”. Within 1 minute the flash color should be green to indicate good cellular coverage. If you do not get the results above, refer to page 13, Section 13– Troubleshooting

## **Confirming Proper Operation**

The Test wire (see wiring diagram) on the TRAKNET is for testing the internal functionality of the hardware. Running tests with this wire grounded will not send data to the call center. The user account does not need to be activated to run the tests. Grounding the wire will start test mode function. If the wire is not removed from ground the unit will remain in the test mode for 5 minutes and then return to normal operation. To start the tests again you must ground the test wire again. If you want the TRAKNET to function normally after testing, remove the test wire from ground and tape the end to prevent the device from going into test mode during normal operation.

Remember that the TRAKNET will remain in the test mode for only 5 minutes at a time and you will need to cycle the test wire to re-enter the test mode. The TRAKNET interface circuits are all pre-wired in the cable harness. Table 1 also shows the wire colors associated with the input and output circuits. The digital outputs are provided to switch optional external devices. Each can sink 1 amp at 35 volts. The outputs are voltage protected so they can sink current from inductive loads. If the individual sink current is allowed to exceed 1 amp, the outputs could be damaged. The digital inputs are triggered by a contact closure or short of less than 100 ohms from the contact to ground on their inputs.

# LED STATUS INDICATOR

## LED Status Indicator

**BI-COLOR ON BOARD LED:** This unit has a bi-colored LED on unit.

### SOLID LED COLOR:

**Solid Green** – Device is in Test Mode: no inputs are currently being triggered.

**Solid Orange** – Device is in Test Mode: At least one input is currently being triggered.

**Solid Red** – Device is in set up mode

### BLINKING LED COLOR:

**Blinking Green** – Microburst and Cellular Service are available.

**Blinking Orange** – Cellular Service, but not Microburst Service is available.

**Blinking Red** – Neither Cellular Service nor Microburst service is available.

### BLINKING LED TIMING:

<b>OFF FOR 1 SECOND</b>	GPS Module is powered and signal is Valid, Cell Module is powered.
<b>OFF FOR 5 SECONDS</b>	GPS Module is powered and signal is invalid, cell module is powered.
<b>OFF FOR 10 SECONDS</b>	GPS module is turned off, Cell module is powered.
<b>OFF FOR 21 SECONDS</b>	GPS module is powered and signal is invalid, cell module is turned off.
<b>OFF FOR 25 SECONDS</b>	GPS module is powered and signal is invalid, Cell module is turned off.
<b>OFF FOR 30 SECONDS</b>	GPS module is turned off, Cell module is turned off.

**NOTE:** *It is highly recommended to perform a location request and other optional features before releasing the vehicle.*



# WIRING

NOTE: Some Options Need to Be Pre-programmed From Crimestopper prior to installing the unit.

**Pin 1 Black: Chassis Ground Input**

*THIS WIRE MUST BE CONNECTED TO THE CHASSIS METAL OF THE VEHICLE.*

Scrape away any paint or dirt to ensure a good connection.

**Pin 2 Green: Starter Disable (-) (Output #2) Requires Relay**

This wire has a negative output to hook up to optional relay. See wiring diagram for connection.

**Pin 3 Blue: GEO Fence (Optional) (-) Input #2**

Connect wire to momentary switch 2 sec input to trigger for GEO fence or 15 sec input to trigger alarm.

**Pin 4: Empty**

**Pin 5 Red: Battery Back Up Power (Input)**

Pre-wired to connector for battery back up.

**Pin 6 White: Overheat Trigger/ Road Side Assistance (-) Input #3**

This wire needs 2 minute trigger for Overheat or 2 sec trigger for Road Side Assistance. Pre-programmed for Overheat.

**Pin 7: Empty**

**Pin 8 Brown: Ignition Input #4 (+)**

This wire must be connected to an Ignition source.

**Pin 9: Empty**

**Pin 10 Purple: LED (Optional) (+) Output**

This wire connects to optional LED for visual status of RSA or GEO Fence.

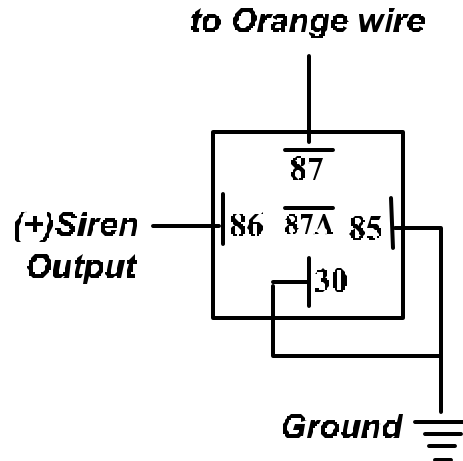
**Pin 11 Yellow: Door Unlock Output (-)**

This wire connects to the door unlock circuit. This wire is a negative output and may require additional relays to interface with different door lock circuits

# WIRING

## Pin 12 Orange: Alarm Trigger (-) *Default\** or Door Open/Close Input #1

- A. **Alarm Trigger\***: Triggers alarm input of tracking device if received a negative input for 15 seconds or longer. This is connected to the negative siren output, if alarm has positive siren output use a relay to convert to negative.



- B. **Door Open/Close Input** :This unit can be programmed for monitoring of door open and close. This configuration must be program see dealer for programming instructions.

## Pin 13: Empty

## Pin 14 Red: 12 Volts Input

This wire is the main power lead. It requires 12 volts constant power.

## Pin15 Black: Chassis Ground Input

THIS WIRE MUST BE CONNECTED TO THE CHASSIS METAL OF THE VEHICLE. Scrape away any paint or dirt to ensure a good connection.

## Pin 16 Black Ground Input

This wire is ground input from the back up battery.

## Pin 17 Gray (Not Used)

## Pin 18 White/Brown (-) Output

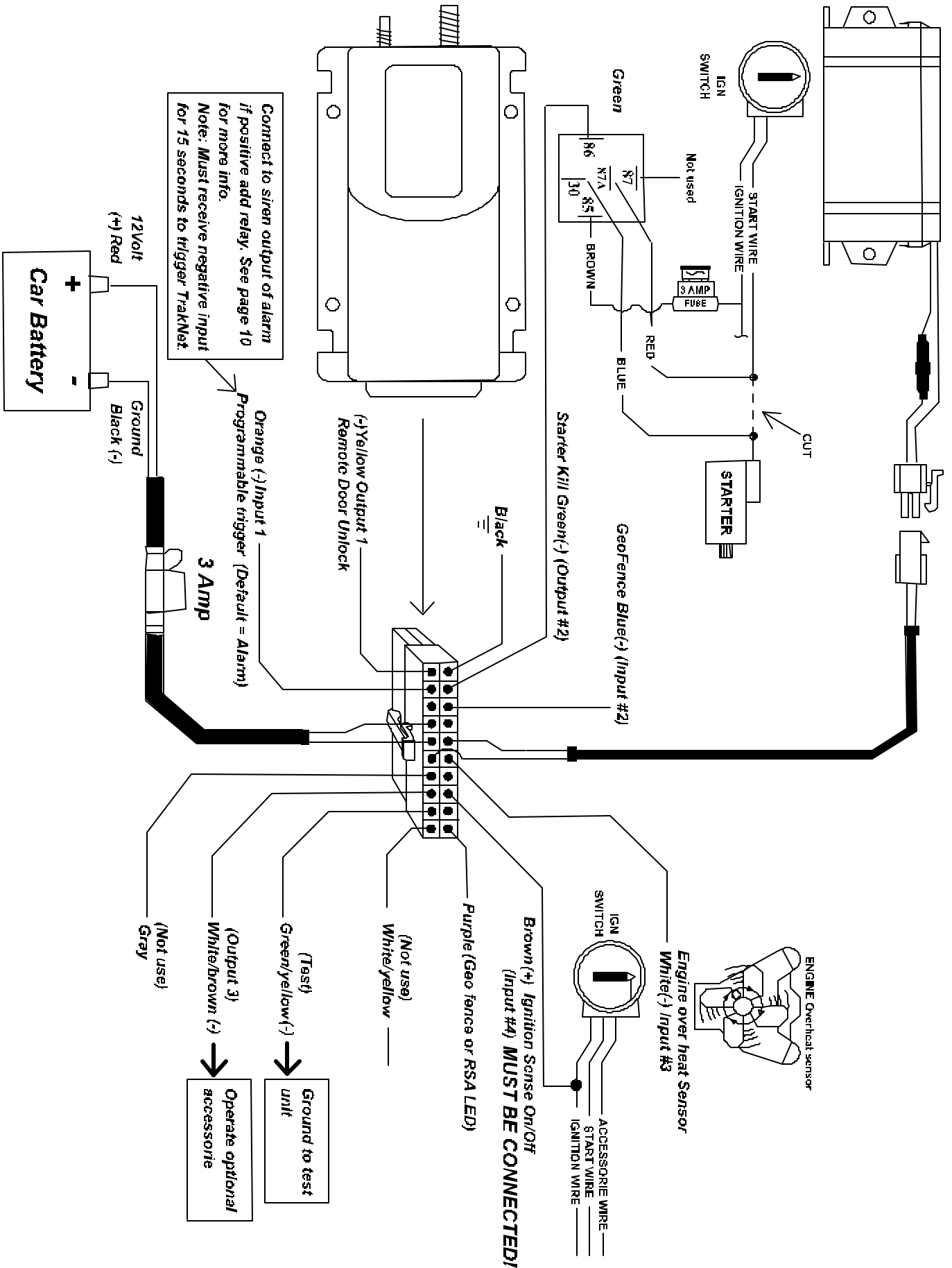
This wire can be programmed to be a ½ second pulsed output or a 3 second pulsed output.

## Pin 19 Green/Yellow (-) Input

Ground this wire to trigger start up test on unit

## PIN 20 White/Yellow (Not Used)

# WIRING DIAGRAM



## ACCESS INFORMATION

Congratulations, you have just installed the Internet based vehicle telematics system. Now that it's installed, here's how to use your system.

### Step #1

First fill out your TrakNet registration form and fax to 805.581-9500. Then you will receive a call or email with your login and password.

### Step #2

Turn on your computer and log on to the Internet using your standard Internet browser.

- Go to: [www.nationstrack.com](http://www.nationstrack.com)
- Enter customer login and password. Then click login.

You may now begin to enjoy all of your new TrakNet™ GPS systems features. Vehicle location requests which provide a map display will generally appear on average in about 30 seconds, your time may vary from 5 to 90 seconds depending upon network signal strengths in your area.

This device complies with FCC Rules part 15. Operation is subject to the following two conditions: 1) This device may not cause interference, and (2) this device must accept any interference that may be received, including interference that may cause undesired operation. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. Such modification could void the user's authority to operate the equipment.

Changes or modifications not expressly approved by Crimestopper Security Products, Inc. Could void the user's authority to operate the equipment.

**CRIMESTOPPER**

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